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Alternatives and Focus: Distribution of Chinese Relative Clauses Revisited

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Abstract

The syntax and the function of Chinese relative clauses have been a hot issue in linguistic studies, given that typologically modifiers of nominals rarely occur before a demonstrative (cf. Greenberg 1963, Cinque 2005), and yet pre-demonstrative relative clauses are common in Chinese. This paper presents an analysis of syntax and information structure of Chinese relative clauses and shows results of a corpus study and a production experiment. It is argued that pre-demonstrative relative clauses structurally express Focus at the nominal periphery, similar to Focus Phrase at the left-periphery of a sentence *à la* Rizzi (1997), deriving by nominal-internal Focus movement. The result of this paper proves the claim of the nominal-clausal parallelism (Abney 1987; Chomsky 1970; Giusti 1996, 2006; Aboh 2004) and the edge (phase) property of DP (Citko 2014) with Chinese data, and shows that features of information structure have syntactic and interpretive effects, suggesting that such features are active in narrow syntax (Miyagawa 2010).

Alternatives and Focus: Distribution of Chinese Relative Clauses Revisited

Yu-Yin Hsu*

1 Introduction

This paper discusses the syntax and information structure of Chinese relative clauses and presents results of a corpus study and a production experiment. I will argue that Chinese relative clauses structurally express Focus at the pre-demonstrative position as the left-periphery Focus of a nominal, similar to Focus Phrase at the left-periphery of a sentence *à la* Rizzi (1997). This paper will distinguish functions associated with relative clauses occurring at different positions, and provide a unified account to phenomena discussed in previous studies. The result of this paper will prove proposals of the nominal-clausal parallelism (Abney 1987, Chomsky 1970, Giusti 1996, 2006, Aboh 2004) with Chinese data, and that features of information structure have syntactic and interpretive effects, suggesting that such features are active in narrow syntax (Miyagawa 2010).

A complex Chinese nominal expression can have a demonstrative, a numeral, a classifier, and a noun. Relative clauses (hereafter RCs) can occur before a demonstrative (i.e., RC1) or between a classifier and a noun (i.e., RC2), as schematized in (1).

(1) (RC1) – Demonstrative – Numeral – Classifier – (RC2) – Noun

The structure and functions of Chinese RCs have aroused great discussion in the literature. An interesting example has led me to reconsider this phenomenon. Without contexts, it is usually reported by native speakers of Chinese that expressions like (2a) with RC1 seem to suggest that the speaker has more than one father (contrary to the intended interpretation), whereas (2b) with RC2 is more appropriate.¹

- (2) a. ?* wǒ [RC1 jiānchí zhù zài xiāngxià de] nà gè lǎobà
 my insist live at countryside DE that CL father
 ‘my father, who insists on living in the countryside’
 b. wǒ nà gè [RC2 jiānchí zhù zài xiāngxià de] lǎobà
 my that CL insist live at countryside DE father
 ‘my father, who insists on living in the countryside’

Different judgments of acceptability observed in (2) seems to suggest that RC1 resembles English restrictive relative clauses, and RC2 the non-restrictive. However, the same expression (2a), with the same intended “nonrestrictive” interpretation, is acceptable within contexts. The sentence in (3) presents a contrastive context where RC1 indicates one situation of the denotation of the head noun as an alternative to other potentially possible situations (underlined in the latter part of the sentence).

- (3) Wǒ [RC1 jiānchí zhù zài xiāngxià de] nà gè lǎobà bù
 my insist live at countryside DE that CL father not
 zhī shénme-shíhòu yuànyì bāndào chénglǐ hé wǒmen zhù!
 know when willing move city with us live

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¹ The following abbreviations are used in the glosses of examples for specific linguistic items: CL = classifier, PERF = perfective aspect; EXP = experiential aspect; Q-PART = interrogative particles; EMP = emphatic marker; DE = marker of prenominal modifiers.

‘My father, who insists on living in the countryside, [I] don’t know when he will be willing to move to the city to live with us!’

To further explore and to account for examples like (3) and in an attempt to explain the differences between RC1 and RC2, I adopt a joint theoretical-experimental approach in this paper. Before I present the analysis and arguments supporting the proposal (in Section 3), in Section 2, I briefly review proposals and issues in the previous studies, and present a corpus study conducted under the current project. In Section 4, I will report results from a production experiment, which supports the theoretical claims provided here; then, I will briefly conclude this paper in Section 5.

2 Previous Studies on Chinese Relative Clauses

Several different analyses of Chinese RCs are proposed in the literature. Following Kayne (1994), Simpson (2003) proposes that all Chinese modifiers of nominal expressions, including adjectives and RCs, are derived by remnant movement from within a CP headed by a particle *de*, and that RC2 (i.e., in (1) above) is derived from RC1 as a result of demonstrative raising. Nonetheless, Paul (2005) shows that not all modifiers of nominal expressions can function as a predicate, against Simpson’s (2003) remnant movement analysis of modifiers of NP. Ming’s (2010) corpus study of *the Lancaster Corpus of Modern Chinese* (McEnery et al. 2003) reported that 28% of the data involved RC1 but 72% of the data involved RC2, indicating that RC2 is more basic and RC1 is marked (contra Simpson’s proposal that RC2 is derived from RC1). Ming proposes that RC1 serves to identify the referent of noun for grounding (cf. Fox and Thompson 1990) and RC2 is descriptive. Holding a different view and following Chao (1968), Huang (1982) and Constant (2011) argue that RC1 expresses restrictive interpretation, and RC2 expresses descriptive interpretation.

However, in the spirit of Huang’s (1987) analysis of secondary predicate, and based on a definite effect found with RC1 within sentences of unaccusative verbs (like *si* ‘die’ and *lai* ‘come’), Tsai (1994) argues that RC1 should be nonrestrictive, and RC2, restrictive. The definite effect here refers to the fact that usually only indefinite nominal expressions can be located at the underlying object position of an unaccusative verb (4a), but definite or referential nominal expressions cannot (4b-d). Notice that the definite effect disappears at the subject position (5).

- (4) a. Lái-le yī gè rén.
 come-PERF one CL person
 ‘[Here] came a person.’
 b. *Lái-le nà gè rén.
 come-PERF that CL person
 ‘[Here] came that person.’
 c. *Lái-le Zhāngsān.
 come-PERF Zhangsan
 ‘[Here] came Zhangsan.’
 d. *Lái-le tā.
 come-PERF she
 ‘[Here] came her.’
 (5) { Yī gè rén / Nà gè rén / Zhāngsān / tā } lái-le.
 one CL person that CL person Zhangsan she come-PERF
 ‘{A person / That person / Zhangsan / She} came.’

Given such effects, a contrast similar to (4a) vs. (4b-d) found between RC1 and RC2 (e.g., (6)) has led Tsai (1994) to propose that RC1 and secondary predicates belong to the same type of descriptive function and thus, it is concluded that RC1 should be non-restrictive and RC2 should be restrictive. Notice also that with or without the demonstrative *na* ‘that’ does not influence the judgment. Unlike Tsai (1994), Based on the same type of contrast shown in (6), and assuming the definite effect (e.g., (4)), Zhang (2006, 2015), instead, proposes that RC1 always expresses specificity and RC2 does not.

- (6) a. *Zuótiān lái-le [[RC1 cónglái bu xǐǎo de] (nà) sān gè rén].
 Yesterday come-PERF ever not bathe DE that three CL person
 ‘Yesterday (those) three people who never bathed came.’
 b. Zuótiān lái-le [sān gè [RC2 cónglái bu xǐǎo de] rén].
 yesterday come-PERF three CL ever not bathe DE person
 ‘Yesterday three people who never bathed came.’

Previous proposals have their own theoretical merits, but only illustrate parts of the fact. If we assume that the function of RC1 is to express specificity (cf. Zhang 2006, 2015) or to indicate the referent of noun (cf. Ming 2010), we face some empirical challenges. First, a specific nominal expression can serve as the underlying object of an unaccusative verb. The example in (7) shows that a specific noun *mo-ge-míngxīng* ‘a certain actor’ surfaces at the underlying argument position of *lái* ‘come’. Examples like (7) suggest that the reason why sentences like (6a) are ungrammatical may not be due to the claim that RC1 expresses specificity.

- (7) Zuótiān lái-le mǒu-gè-míngxīng. Wǒ wàngjì tā jiào shénme míngzì lái-zhe.
 Yesterday come-PERF certain-CL-actor I forget he call what name by-the-way
 ‘Yesterday an actor came. I forget what his name is, by the way.’

Second, Chinese RCs can modify pronouns and proper names, e.g., (8) and (9), respectively (see Lin 2003, Fang 2008, Shi 2010, Lin and Tsai 2015). Facts like these suggest that the main function of RC1 may not be to identify the referent or to express specificity (contra Ming 2010, Zhang 2006, 2015).

- (8) Yī-huì-tóu, wǒ jiù kànjiàn [RC1 zhèng zài yùndòngde] tā.
 look-back I immediately see right PROG exercise DE him
 ‘As soon as I turned around, I saw him, who’s doing exercise.’
 (9) Nǐmen huì kàndào [RC1 pǎo.de gèng kuài de] Liúxiáng.
 you will see run.DE more fast DE Liuxiang
 ‘You will see a Liuxiang who runs faster (than the Liuxiang before).’

Currently, the more widely accepted view in the literature is that both RC1 and RC2 are restrictive (see Lin 2003, Del Gobbo 2005, 2010, Shi 2010, Lin and Tsai 2015). If the “restrictive” function is understood as to specify a subset of objects (cf. Keenan and Comrie 1977), both RC1 and RC2 can be conceived as restrictive. Shi (2010) points out that in sentences like (8) and (9), the individual therein can be understood as realizing in a set of different stages, and RCs restrict a subset of stages. For example, sentences like (9) can be interpreted as among different stages of *Liuxiang*, an Olympic Gold medalist, the future stage of *Liuxiang* having a fast running property contrasts with the current stage and the past stage of *Liuxiang* in advancing the speed.

Nonetheless, this widely accepted view of restrictiveness still does not seem to be sufficient in explaining the difference between RC1 and RC2. A corpus study on randomly selected 20k sentences (out of 1,396,133 sentences) from *Academia Sinica Balanced Corpus of Modern Chinese* (Cheng et al. 1996) shows that 415 sentences contain at least one nominal with RCs together with a demonstrative; among them, 21% of the sentences are RC1, and 79% are RC2 (similar to Ming’s (2010) report: RC1, 28%; RC2, 72%), as summarized in (10). No specific difference was found concerning grammatical subject and object roles with respect to the occurrence of RCs (unlike what Ming 2010 reported).

(10) Corpus	RC1	RC2
<i>Academia Sinica Balanced Corpus</i>	21%	79% (415 sentences)
<i>Lancaster Corpus of Modern Chinese</i> (Ming, 2010)	28%	72% (198 sentences)

Given the theoretical concerns and results from corpora, the distributional difference (21% RC1 vs. 79% RC2) still raises a question: What drives the speaker to select one form over the other? To find the answer to this question, I re-examine the syntax and information structure of the phenomenon at issue. In the next section, I present my proposal.

Notice that, both stage-level RCs and individual-level RCs can occur at the pre-demonstrative position, as shown in (18).

- (17) a. [S-RC *zuotian meiyou lai de*] na ge [I-RC *hen xihuan shang ke de*] xuesheng
 yesterday not come DE that CL very like go class DE student
 ‘that student who didn’t come yesterday, who likes to come to class very much’
 b. *[I-RC *hen xihuan shang ke de*] na ge [S-RC *zuotian meiyou lai de*] xuesheng
 very like go class DE that CL yesterday not come DE student
 ‘that student who didn’t come yesterday, who likes to come to class very much’
- (18) a. [S-RC *zuotian meiyou lai de*] na ge xuesheng
 yesterday not come DE that CL student
 ‘that student who didn’t come yesterday’
 b. [I-RC *hen xihuan shang ke de*] na ge xuesheng
 very like go class DE that CL student
 ‘that student who likes to come to class very much’

Thus, given the superiority effect, a natural explanation to the contrast shown in (17) would be that when a higher functional head licenses a RC in a pre-demonstrative position, it picks the closest one to value the features, similar to what we found with the *wh*-movement in *wh*-questions in (14); in turn, such examples argue for the nominal-internal movement of RCs in Chinese.

3.2 Relative Clause as Focus

Given that RC1 is derived by nominal-internal movement, I show in this section that it is Focus that drives such movement.

Assuming that nominals marked with *only* are Focus expressions (e.g., Hole 2004), we can see that sentences with a Focus operator *zhiyou* ‘only’ associating with the property expressed by an RC show that such a RC is better to occur at the nominal-periphery. Let’s consider a scenario where a director is looking for three students with a peculiar property to play certain roles in his new movie, and the director complains to his casting director (as in (19)), and we can see that using RC1 is felicitous, but using RC2 is not.

- (19) ‘How come you got me these unqualified actors? I have told you’
 a. ?*[**Zhiyou** san ge [RC2 *conglai-bu xizao de*] xuesheng] cai shi wo yao de!
 Only 3 CL never shower DE student exactly be I want De
 ‘Only three students who never take a shower are whom I am looking for!’
 b. [**Zhiyou** [RC1 *conglai-bu xizao de*] san ge xuesheng] cai shi wo yao de!
 Only never shower DE 3 CL student exactly be I want De
 ‘Only three students who never take a shower are whom I am looking for!’

Discourses like (19) show that when a property of a noun expressed by a relative clause is focused, such property needs to be expressed by RC1 (e.g., (19b)), but not RC2 (e.g., (19a)).

The proposal that RC1 expresses Focus at the nominal-periphery is also supported by empirical examination. Below, I summarize findings from a production experiment.

4 Relative Clauses as Focus: An Experiment

In a forced-choice questionnaire experiment (N=156), participants who are native speakers of Chinese were asked to choose between RC1 and RC2 to complete a dialogue. Two conditions of contexts were manipulated: a non-Focus condition where RCs modify the whole set, e.g., (20), and a Focus condition where RCs modify one subset contrasting with the other subsets, e.g., (21).

(20) Non-Focus Condition

A: Zhangsan’s three sons are all lawyers.

B: Yes, I heard that his sons who are teachers are paid very well!

A: No, _____ are paid very well!

- (a) dang lushi de na san ge erzi
be lawyer DE that three CL son
'those three sons who are lawyers'

- (b) na san ge dang lushi de erzi
that three CL be lawyer DE son
'those three sons who are lawyers'

(21) Focus Condition

A: Among Zhangsan's six sons, three are teachers and three, lawyers.

B: I heard that three sons are paid very well.

A: Those teachers?

B: No, _____ are paid very well!

- (a) dang lushi de na san ge erzi
be lawyer DE that three CL son
'those three sons who are lawyers'

- (b) na san ge dang lushi de erzi
that three CL be lawyer DE son
'those three sons who are lawyers'

These two conditions were then crossed with four information statuses: declaratives, contrastive-RC, *only*-RC, and answers to *wh*-questions (e.g., (22)). Among all the stimuli, half of the items involved subject extracted RCs and the other half, object extracted RCs.

(22) Examples of four information statuses:

a. Declarative: I heard that Zhangsan's 3 sons who are lawyers are paid very well.

b. Contrastive-RC: A: Zhangsan's 3 sons who are teachers are paid very well.

B: Wrong, those 3 sons who are lawyers are paid very well!

c. Only-RC: A: Firefighters rescued 5 people; 3 were injured, and 2 were not hurt at all.

B: I heard that there were 2 other people who were injured.

A: No. Only those 3 people who firefighters rescued were injured.

d. Wh-questions: A: Who are paid very well?

B: Those 3 sons of Zhangsan who are lawyers are paid very well!

Logistic regression analyses (Hosmer and Lemeshow, 2000; Pampel, 2000) were performed on participants' choosing RC1 or not and the relationship among factors. The overall result shows significant effects of choosing RC1 under the Focus condition ($p < .001$), and when different information statuses were involved ($p < .001$): contrastive ($p < .001$) and *only* ($p = .022$). Foci show significant effects on choosing RC1. No significant effects were found between choosing RC1 and RC2 when no nominal-internal Focus is involved (i.e., in declaratives and answers to *wh*-questions), and no significant effects were found with respect to the choice of RCs and the difference of subject and object grammatical roles.

In other words, the results suggest that the function of RC1 is closely related to Focus within the nominal domain. This in turn supports the current proposal of RC1 as nominal-internal Focus at the periphery, and it provides an explanation to our corpus search which shows that RC1 is more marked – because RC1 is selectively used under specific Focus environments.

5 Remaining Issues

If the current proposal is on the right track, other phenomena concerning Chinese relative clauses reported in the literature can receive a unified account as well. Below I present how the proposed analysis explains restrictions on topicalization from within a complex nominal with respect to the occurrence of RC1 and RC2 (Section 5.1), and issues concerning restrictions on the compatibility

of predicate types of RCs (Section 5.2).

5.1 PIC and Anti-Locality

Zhang (2015) and Lin and Tsai (2015) point out that constituents after RC1 cannot undergo topicalization, but elements after RC2 can, as exemplified in (23).

- (23) a. *[Na ge xuesheng]_i, wo renshi [[_{RC1} zuotian lai zhao ni de] t_i].
 that CL student I know yesterday come find you DE
 ‘(As for) that student, I know [the one] who came to look for you yesterday.’
 b. Xuesheng_i, wo renshi [na ge [_{RC2} zuotian lai zhao ni de] t_i].
 Student I know that CL yesterday come find you DE
 ‘(As for) student, I know that [one] who came to look for you yesterday.’

Recall that the difference between RC1 and RC2 should not be due to specificity or restrictiveness (contra Zhang 2006, 2015; Lin and Tsai 2015). Following the Focus movement analysis proposed in this paper, I propose that the contrast shown in (23) can be accounted for by anti-locality (cf. Bošković 2005) and Chomsky’s (2001) Phase Impenetrability Condition, that is, only the head of a phase and constituents at the edge of a phase can be extracted out of the phase.

Given that Chinese has DP structure (Huang et al. 2009), and that DP is a phase (Citko 2014), it follows that the noun phrase after RC1 cannot be extracted through the left-periphery of DP, because RC1 has been derived by nominal-internal focus movement to the Spec,Focus at the nominal-periphery, as the structure shown in (24).

- (24) *Xuesheng_i, wo renshi [_{FocP} t_i [_{RC1} zuotian lai zhao ni de] [_{Foc} Ø_{Focus} [_{DP} na ge [t_i]]]].
 Student I know yesterday come find you DE that CL
 ‘(As for) student, I know that one who came to look for you yesterday.’

However, the noun phrase after RC2 can be extracted by passing the edge of DP, like the example (23b) repeated below (modified with the structural representation).

- (23) b. Xuesheng_i, wo renshi [_{DP} t_i [_D na ge [_{NP} [_{RC2} zuotian lai zhao ni de] t_i]]].
 student I know that CL yesterday come find you DE
 ‘(As for) student, I know that [one] who came to look for you yesterday.’

According to the same mechanism, ungrammatical sentences like (23a) (repeated below and modified with the structural representation) can be accounted for in the same way, that is, when RC1 occurs at the edge of DP, no other constituents can be extracted from within the nominal expression. Also notice that moving *na ge xuesheng* ‘that student’ violates anti-locality that movement cannot be too short (cf. Grohmann 2003)

- (23) a. *[Na ge xuesheng]_i, wo renshi [_{FocP} t_i [_{RC1} zuotian lai zhao ni de] [_{Foc} Ø_{Focus} t_i]].
 that CL student I know yesterday come find you DE
 ‘(As for) that student, I know [the one] who came to look for you yesterday.’

Thus, examples’ contrast like (23) may not be due to definiteness/specificity effects claimed in the previous studies, but due to the violation of anti-locality; constituents dominated by such a FocP cannot be moved through the edge.

5.2 Focus-Background Partition

If the proposal is on the right track, I argue that RCs modifying pronouns and proper names can also receive a unified account.

Lin (2003) argues that both RC1 and RC2 are restrictive, but when a RC is formed by an individual-level predicate, which expresses stable, unchanging, long-term properties, such a RC can have non-restrictive interpretation, and that is why such RCs can modify pronouns or proper names; Lin also argues that when RCs formed by a stage-level predicate, it cannot modify pronouns or proper names, e.g., (25).

- (25) a. Xianglai jiu bu ai du shu de Xiaoming
 always then not love study book DE Xiaoming
 xiangzai ye kaishi du qi shu lai le.
 now also begin study begin book come ASP
 ‘Xiaoming, who does not love to study, now also has begun to study.’
 b.* Zuo zai caodi shang de Zhangsan hen xihuan chouyan.
 sit on grass above DE Zhangsan very like smoke
 ‘Zhangsan, who is sitting on the grass, likes to smoke very much.’

Arguing against Lin’s (2003) claim that only RCs expressing permanent properties can modify pronouns and proper names, Shi (2010:327) shows that RCs with stage-level predicate can also modify pronouns or proper names; the sentence in (26) is one such example.

- (26) Zheng-zai jingzuo yundong de ZhouBotong turan
 Right-PROG sit-in demonstration DE ZhouBotong suddenly
 da jiao yi sheng, tiao-le qi-lai.
 big scream one voice jum-PERF up-come
 ‘ZhouBotong, who was sitting-in to stage a demonstration, suddenly screamed loudly and jumped up.’

Shi (2010) further indicates that the contrast shown in examples like (25) is due to the licensing of a proper denotation, that is, whether such a denotation can be construed for an RC and the noun it modifies. As the example in (26) shows, when the subject (*ZhouBotong*) is defined by a special property described by the RC (*zheng-zai jingzuo-yundong* ‘being sitting-in to stage a demonstration’), if the predicate of the sentence describes a possibly co-occurring temporary event, the sentence is acceptable. However, if the predicate of the sentence, instead, describes a certain event cognitively cannot be related to what is described by the RC of the subject, the sentence becomes unacceptable. As shown in (27), this sentence contains a subject modified by an individual-level RC, but this sentence is not acceptable, unlike (25a). The different acceptability between (25a) and (27) argues against Lin’s (2003) claim.

- (27) ??Xianglai jiu bu ai du shu de Xiaoming turan
 always then not love study book DE Xiaoming suddenly
 da jiao yi sheng, tiao-le qi-lai.
 big scream one voice jum-PERF up-come
 ‘Xiaoming, who does not love to study, suddenly screamed loudly and jumped up.’

In light of Shi’s (2010) proposal, I argue that these aforementioned facts can be accounted for under the current Focus analysis to RC1. What Shi (2010) suggests as being cognitively congruent between the main predicate and the RC naturally fits in the *Focus-Background* partition proposed by Rooth (1985, 1992) and Krifika (2007:18). According to them, *Focus* indicates the presence of alternatives that are relevant for the interpretation of linguistic expressions, and *background* refers to where foci are interpreted. Thus, the acceptability of sentences does not depend on whether RCs involve a stage-level or individual-level predicate, but it depends on whether the RC of an argument and the main predicate of the sentence form a congruent *Focus-Background* relationship.

Given the current analysis, it follows that sentences like (28) can be interpreted as among attributes that can be used to describe *Obama* related to the particular *background* where it can be interpreted (*dangxuan Meiguo di-sishisi-ren zongtong* ‘being elected the 44th president of the USA’), such as Harvard Law graduate, the winner of 2009 Nobel Peace Prize, etc., the speaker selects and emphasizes “African American” as the Focus in the Focus-Background partition of the sentence.

- (28) [[_{RC} Juyou hei.ren-xietong de] Obama] dangxuan Meiguo di-sishisiren zongtong.
 possess black.people-blood DE Obama elected USA forty-fourth president
 ‘Obama, who is an African American, was elected the 44th president of the USA.’

Notice that, according to Partee (2009:8), the alternative set of Focus may or may not be already in the context, and that the Focus itself can cause the hearer to search for a proper set to accommodate into the context. Following Partee (2009), I assume that the speaker of sentences like (28) does not have to have prior knowledge of all the possible alternatives upon uttering such a sentence, but that the choice that the speaker picks one specific attribute to form a RC to modify a proper name or a pronoun already serves to indicate the Focus status of RC of that nominal expression and causes the hearer to search for a proper set of alternatives to accommodate into the context.

6 Concluding Remarks

The syntax and the function of Chinese relative clauses have been a hot issue in linguistic studies, given that typologically modifiers of nominals, such as adjectives and relative clauses, rarely occur before a demonstrative (cf. Greenberg 1963, Chinque 2005), and yet such a sequence is common in Chinese. In this paper, I reviewed the debate over the functional differences of relative clauses at two different positions (e.g., restrictive vs. non-restrictive, specific vs. descriptive), investigated syntax and information structure of Chinese relative clauses, and presented results of a corpus study, and a production experiment. The theoretical analysis and empirical data follow naturally if the pre-demonstrative relative clause (RC1) is distinguished from the post-demonstrative relative clause (RC2) in that the former expresses Focus at the left-periphery of the nominal domain through nominal-internal Focus movement, similar to Focus at the left-periphery of a sentence *à la* Rizzi (1997). This analysis provides a sound explanation to why RC1 is more marked than RC2 is, consistently accounts for the same range of data discussed in the previous studies, and avoids discrepancies raised by previous proposals. The results of this paper support the nominal-clausal parallelism (Abney 1987; Chomsky 1970) and the edge (phase) property of DP (Citko 2014) with Chinese data, and it shows that features of information structure are active in narrow syntax (cf. Miyagawa 2010).

References

- Abney, Paul Steven. 1987. *The English Noun Phrase in its Sentential Aspect*. Ph.D. dissertation, MIT.
 Aboh, Enoch O. 2004. Topic and Focus within D. *Linguistics in the Netherlands* 21: 1-12.
 Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59:1-45.
 Chao, Yuan Ren. 1968. *A Grammar of Spoken Chinese*. Berkeley: University of California Press.
 Chen Keh-Jiann, Chu-Ren Huang, Li-Ping Chang, Hui-Li Hsu. 1996. SINICA CORPUS: Design methodology for balanced corpora. *Language Information and Computation (PACLIC 11)*, P167-176.
 Chomsky, Noam. 1970. Remarks on nominalization. In *Readings in English Transformational Grammar*, ed. R. Jacobs and P. Rosenbaum, 184-221. Waltham, MA: Blaisdell Publishing.
 Chomsky, Noam. 2001. Derivation by Phase. In M. Kenstowicz (ed.) *Ken Hale: A Life in Language*. Cambridge, MA: MIT Press, 1-52.
 Cinque, Guglielmo. 2005. Deriving Greenberg's universal 20 and its exceptions. *Linguistic Inquiry* 36, 315-332.
 Citko, Barbara. 2014. *Phase Theory. An Introduction*. Cambridge: Cambridge University Press.
 Constant, Noah. 2011. Appositives after all. Ms. University of Massachusetts, Amherst.
 Del Gobbo, Francesca. 2005. Chinese relative clauses: restrictive, descriptive or appositive. In L. Bruge, G. Giusti, N. Munaro, W. Schweikert, and G. Turano, eds. *Proc. XXX incontro di grammatical generative*.
 Del Gobbo, Francesca. 2010. On Chinese appositive relative clauses. *Journal of East Asian Linguistics* 19, 385-417.
 Fang, Mei. 2008. Two emerging grammatical structures motivated by background information packaging: A case study on the cataphoric zero subject clause and the descriptive clause. *Zhongguo Yuwen* 325, 291-303.
 Fox, Barbara A. and Sandra A. Thompson. 1990. On Formulating Reference: an Interactional Approach to Relative Clauses in English Conversation. *Papers in Pragmatics* 4:1/2: 183-195.

- Giusti, Giuliana. 1996. Is there a focus P and a topic P in the noun phrase structure? *University of Venice Working Papers in Linguistics* 6.2: 105-128.
- Giusti, Giuliana. 2006. Parallels in clausal and nominal periphery. In M. Frascarelli (ed.), *Phases of interpretations*, Pp.151-172. Berlin: Mouton de Gruyter.
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In *Universals of Language*, ed. Joseph H. Greenberg, 73-133. Cambridge, MA: MIT Press
- Grohmann, Kleanthes. 2003. *Prolific Domains: On the Anti-Locality of Movement Dependencies*. Amsterdam: John Benjamins Publishing Company.
- Hole, Daniel. 2004. *Focus and Background Marking in Mandarin Chinese. System and theory behind cái, jiù, dōu and yě*. (Asian Linguistics 5.) London & New York: RoutledgeCurzon.
- Hosmer, D. W., and Lemeshow, S. 2000. *Applied logistic regression* (2nd ed.). New York: Wiley.
- Huang, C.T. James. 1982. *Logical relations in Chinese and the theory of grammar*, Ph.D. dissertation, MIT.
- Huang, C.-T. James. 1987. Existential sentences in Chinese and (in)definiteness. In *The Representation of (In)Definiteness*, ed. Eric Reuland and Alice ter Meulen, 226-253. Cambridge, MA: MIT Press.
- Huang, C.-T. James, Audrey Li, and Yafei Li. 2009. *The Syntax of Chinese*. Cambridge: Cambridge University Press.
- Kayne, R.S. 1994. *The antisymmetry of syntax*. Cambridge, MA: The MIT Press.
- Keenan, Edward and Bernard Comrie, 1977. "Noun Phrase Accessibility and Universal Grammar". *Linguistic Inquiry* 8: 63-99.
- Krifka, Manfred. 2007. Basic notions of information structure. In C. Fery and M. Krifka (eds.), *Interdisciplinary Studies of Information Structure* 6, Potsdam
- Lin, Jo-wang. 2003. On restrictive and non-restrictive relative clauses in Mandarin Chinese. *Tsinghua Journal of Chinese Studies, New Series*, 33, 199-240.
- Lin, Jo-Wang. 2008. The order of stage-level and individual-level relatives and superiority effects. *Language and Linguistics* 9: 839-864.
- Lin, Jo-wang, and Wei-Tien Dylan Tsai. 2015. Restricting non-restrictive relatives in Mandarin Chinese. *Chinese syntax in a cross-linguistic perspective*, Audrey Li and Andrew Simpson (Eds.), Oxford Studies in Comparative Syntax, Oxford University Press.
- McEnery, A., Xiao, Z. & Mo, L. (2003). Aspect marking in English and Chinese: Using the Lancaster Corpus of Mandarin Chinese for contrastive language study. *Literary and Linguistic Computing*, 18: 361-378.
- Ming, Tao. 2010. The relative position of demonstratives and relative clauses in Mandarin Chinese, the Proceedings of the 22 nd North American Conference on Chinese Linguistics and the 18th International Association of Chinese Linguistics, 323-340.
- Miyagawa, Shigeru. 2010. *Why Agree? Why Move? Unifying Agreement-based and Discourse Configurational Languages*. MIT Press, Linguistic Inquiry Monograph 54.
- Pampel, F. C. 2000. *Logistic regression: A primer*. Thousand Oaks, CA: Sage.
- Partee, Barbara. 2009. Lecture 10: Focus and information structure: semantics and pragmatics, Formal Semantics Lecture at MGU May 15, 2009.
- Paul, Waltraud. 2005. Adjective modification in Mandarin Chinese and related issues. *Linguistics* 43:757- 793.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: Handbook in Generative Syntax*, ed. L. Haegeman, 281-337. Dordrecht: Kluwer Academic Publisher.
- Rooth, Mats. 1985. *Association with Focus*. Doctoral Dissertation, University of Massachusetts, Amherst.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75-116. [ftp://ftp.ims.uni-stuttgart.de/pub/papers/mats/focus-interpretation.ps.gz](http://ftp.ims.uni-stuttgart.de/pub/papers/mats/focus-interpretation.ps.gz)
- Shi, Dingxu. 2010. Xianzhixing dingyu han miaoxiexing dingyu [restrictive and descriptive modifiers], *Foreign Language Teaching and Research* 42 (5):323-328.
- Simpson, Andrew. 2003. On the status of modifying DE and the structure of Chinese DP. In *on the formal way to Chinese language*, eds. Cheng-sheng, Luther Liu and Sze-wing Tang. Stanford: Centre for the study of language and information.
- Tsai, Wei-Tien Dylan. 1994. *On Economizing the Theory of A-Bar Dependencies*, Ph.D. dissertation, MIT.
- Zhang, Niina Ning. 2006. Representing specificity by the internal order of indefinites. *Linguistics* 44: 1-21.
- Zhang, Niina Ning. 2015. Nominal-internal phrasal movement in Mandarin Chinese. *The Linguistic Review* 2015:32(2): 375-425.